

LICENSEE EVENT REPORT (LER)

FACILITY NAME (1) R.E. Ginna Nuclear Power Plant										DOCKET NUMBER (2) 0 5 0 0 0 2 4 4				PAGE (3) 1 OF 0 3		
TITLE (4) Manual Turbine and Reactor Trip Due to EH System Problems																
EVENT DATE (5)			LER NUMBER (6)				REPORT DATE (7)			OTHER FACILITIES INVOLVED (8)						
MONTH	DAY	YEAR	YEAR	SEQUENTIAL NUMBER	REVISION NUMBER	MONTH	DAY	YEAR	FACILITY NAMES				DOCKET NUMBER(S)			
0 9	2 8	8 5	5 8	5	0 1 8	0 0	1 0	2 8	8 5					0 5 0 0 0		
THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR 5: (Check one or more of the following) (11)																
OPERATING MODE (9)		N		20.402(b)		20.408(a)		X		80.73(a)(2)(iv)		73.71(b)				
POWER LEVEL (10)		110.10		20.408(a)(1)(i)		80.38(a)(1)				80.73(a)(2)(v)		73.71(a)				
				20.408(a)(1)(ii)		80.38(a)(2)				80.73(a)(2)(vi)		OTHER (Specify in Abstract below and in Text, NRC Form 308A)				
				20.408(a)(1)(iii)		80.73(a)(2)(i)				80.73(a)(2)(vii)(A)						
				20.408(a)(1)(iv)		80.73(a)(2)(ii)				80.73(a)(2)(viii)(B)						
				20.408(a)(1)(v)		80.73(a)(2)(iii)				80.73(a)(2)(ix)						
LICENSEE CONTACT FOR THIS LER (12)																
NAME T.R. Schuler, Operations Manager										TELEPHONE NUMBER AREA CODE 3 1 5 5 2 4 - 4 4 4 6						
COMPLETE ONE LINE FOR EACH COMPONENT FAILURE DESCRIBED IN THIS REPORT (13)																
CAUSE	SYSTEM	COMPONENT	MANUFACTURER	REPORTABLE TO NRC		CAUSE	SYSTEM	COMPONENT	MANUFACTURER	REPORTABLE TO NRC						
X	TG	ICLR	A13110	N												
B	TG	IRLY	M101315	N												
SUPPLEMENTAL REPORT EXPECTED (14)												EXPECTED SUBMISSION DATE (15)		MONTH	DAY	YEAR
YES (If yes, complete EXPECTED SUBMISSION DATE)												X NO				

ABSTRACT (Limit to 1400 spaces, i.e., approximately fifteen single-space typewritten lines) (16)

On September 28, 1985 at approximately 1900 hours while the unit was operating at 100% reactor power, the operators noticed that the 2A Turbine Reheater Intercept Control Valve was slowly drifting closed. Subsequently, other deteriorating conditions were identified in the Turbine Electro-Hydraulic (EH) Control System. At 2005 hours, the Turbine Stop Valve "A" started drifting closed and at 2009 hours the #2 Turbine Control Valve went from its normal 45-50% open position to full open. At this time the operators reduced reactor power rapidly to less than 50% to allow continued operation with one stop valve closed.

At 2205 hours, with a second Turbine Reheater Intercept Control Valve beginning to drift closed, the operators manually tripped the turbine and reactor. All systems operated as designed and the reactor was stabilized at hot shutdown conditions.

The cause of the EH Control System failure was water that had entered the EH fluid through a tube leak in one of the two EH Fluid Coolers. The cooler leak was repaired and other EH Control System maintenance was completed.

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LICENSEE EVENT REPORT (LER) TEXT CONTINUATION

U.S. NUCLEAR REGULATORY COMMISSION

APPROVED OMB NO. 3150-0104

EXPIRES 8/31/85

FACILITY NAME (1)	DOCKET NUMBER (2)	LER NUMBER (6)			PAGE (3)		
		YEAR	SEQUENTIAL NUMBER	REVISION NUMBER			
R.E. Ginna Nuclear Power Plant	05000244	85	018	00	02	OF	03

TEXT (If more space is required, use additional NRC Form 366A's) (17)

On Saturday 9/28/85 at approximately 1900 hours while operating the unit at 100% reactor power, the operators noticed that the 2A Turbine Reheater Intercept Control Valve indication on the main control board was not in the normal full open position. Local inspection of the valve revealed that it was slowly drifting toward the closed position. Instrumentation and Control (I&C) personnel were called in to investigate this condition. At the same time operators found deteriorating conditions at the Turbine Electro-Hydraulic (EH) Control Unit, such as low EH fluid pressure, erratic EH pump loading and unloading cycles, and increasing EH fluid temperature.

While I&C personnel were investigating these conditions at 2005 hours, a computer alarm was received indicating V-3544, Turbine Stop Valve "A" was starting to drift closed. At 2009 hours, the #2 Turbine Control Valve went from its normal position of 45-50% open to full open, causing an immediate reduction in Reactor Coolant System temperature and pressure. The operators immediately placed the turbine control in manual and reduced power rapidly to less than 50% power to allow continued operation with one stop valve closed.

I&C personnel continued to investigate the EH problems by isolating the EH system at various stop, control and intercept valves. Each time this would cause variations in turbine load, and reactor power.

At 2205 hours, a second Turbine Reheater Intercept Control Valve began drifting closed and turbine generator load dropped off significantly (100 MWe decrease). With this load change and the deteriorating EH system conditions, the Control Room Foreman directed the operators to manually trip the turbine and the reactor to ensure the plant was placed in a controllable situation. During operator verification of the reactor trip condition it was noted that the rod bottom light for control rod H-02 was not illuminated. The operator commenced immediate boration as required by E-20, Immediate Boration. The cause of this was attributed to dirty contacts on output relay CR-3 within the Rod Bottom Bistable (Magnetics, Inc. Relay #214 XCX, 12V 60HZ). All systems operated as designed and the reactor was stabilized at hot shutdown condition.

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TEXT (If more space is required, use additional NRC Form 306A's) (17)

Inspection of the Turbine EH Fluid revealed that water had entered the system through a tube leak in one of two Turbine EH Fluid Coolers (American Standard Type BCF Multi-pass Heat Exchanger). Corrective action included the following:

1. Plugging the leaking cooler tube and hydrostatically testing of both coolers to ensure integrity.
2. Draining, replacing and flushing the EH fluid from the entire system.
3. Changeout of EH fluid filters.
4. Replacement of several EH servo-valves on the turbine control and intercept valves.
5. Replacement of the EH System loading/unloading valves and relief valves.
6. Check of the operation of the EH high pressure accumulators.

The unit was maintained at hot shutdown for 29.5 hours to complete the aforementioned repairs. The unit returned to power on September 30, 1985 at 0330 hours.

Future corrective action to be completed during the 1986 Refueling Outage include preventive maintenance of the EH System and investigation into replacement of the EH fluid coolers with a more reliable design.



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ELECTRIC & STEAM PRODUCTION

TELEPHONE
AREA CODE 716 546-2700

October 28, 1985

U.S. Nuclear Regulatory Commission
Document Control Desk
Washington, DC 20555

Subject: LER 85-018, Manual Turbine and Reactor Trip Due to EH
System Problems
R.E. Ginna Nuclear Power Plant
Docket No. 50-244

In accordance with 10 CFR 50.73, Licensee Event Report System, item (a)(2)(iv) which requests a report of, "any event or condition that resulted in manual or automatic actuation of any Engineered Safety Feature (ESF), including the Reactor Protection System (RPS)", the attached Licensee Event Report LER 85-018 is hereby submitted.

Very truly yours,

Bruce A. Kober for
Roger W. Kober

RWK/eeg

xc: U.S. Nuclear Regulatory Commission
Region I
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